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New U.S. Patent Application  
Docket No. 32860-000571/US

# ABSTRACT OF THE DISCLOSURE

~~Confocal distance sensor~~

~~The invention creates a~~ A sensor is for rapid optical distance measurement based on the confocal imaging principle. The sensor ~~comprises~~ includes a light source 210, which emits an illuminating light 212 with different spectral components, and an optical imaging system 230, through which the illuminating light 212 is directed onto the surface 240 of a measurement object, with ~~d.~~ Different spectral components of the illuminating light 212 ~~being~~ are focused at different distances from the optical imaging system 230 due to a chromatic aberration of the optical imaging system 230. Also provided are a beam splitter 220, which is arranged so that measuring light 252, which is reflected back at least partially from the surface 240, is separated spatially from the beam path of the illuminating light 212. Further, a light receiver is included 250, which records the measuring light 252, which is separated spatially from the beam path of the illuminating light 212, with spectral resolution. Finally, an ~~an~~ analysis unit, which determines the distance between the sensor 200 and the surface 240 from the intensities of measuring light 252 recorded for different spectral components.